

Written by Bobby M. Reyes

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Part II of the Series, "Filipino Armageddon"

To view Part I, please click this link: [A 9.0-Magnitude Quake Will Destroy Metro Manila and Kill At Least 5.53-million Inhabitants Even Without a Tsunami Following It](#)

Several readers phoned or e-mailed this writer and they said that it is hard to believe my contention that a magnitude 9.0 earthquake might completely wipe out Metro Manila and cause at least 5.53-million deaths and severe injuries to millions of survivors. The National Capitol Region (NCR) area and its neighboring provinces have more-than 20-million in population.

It will not take rocket science to find facts that will back up my contention. It will only take an "Elementary, Mr. Watson" kind of presentation and argumentation.

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In Part I of this series, I extrapolated an estimate of then-Philippine Defense Secretary Norberto Gonzales that a 7.2-magnitude quake would cause the deaths of some 3,000 individuals. On the other hand, the *Philippine Daily Inquirer* (PDI) reported the estimate made by the Pacific Strategies and Assessments (PAS), which assumed the death toll at some 58,000 individuals on the same 7.2-magnitude earthquake. It will boggle the mind if we extrapolate the PAS estimates, as presented by the PDI. So, for purposes of this thesis, we will consider only the low-casualty estimate of Secretary Gonzales.

The *Philippine Daily Inquirer* published in its March 14, 2011, issue this article: [Are Filipinos prepared for the Big One?](#)

URL: <http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20110314-325294/Are-Filipinos-prepared-for-the-Big-One>

Here are the *Inquirer* article's first-3 paragraphs:

“About 34,000 people dead instantly and 24,000 dead or dying in the rubble. About 110,000 injured and needing immediate treatment. Five hundred fires raging simultaneously.

“Metro Manila faces these and several other horrific scenes should a 7.2-magnitude earthquake hit the country’s most populous urban area, according to a report released by a multinational firm doing intelligence work for clients on business and security in the Philippines.

“Pacific Strategies and Assessments (PSA) said in its report on [Metro Manila](#)’s quake vulnerability that while quakes were normal occurrences in the metropolis, the effects of a 7.2-magnitude tremor were likely to be made more terrifying by a lack of preparedness and failure to enforce zoning laws and building standards.”

How and Why the Deaths, Injuries and Destruction Would Occur

Here are some of the arguments how and why a 9.0-magnitude earthquake in Metro Manila may become the “mother of all natural disasters” in the history of the world:

1.0 The PSA correctly stated that there is virtually no effort by Philippine-government national and local-government units (LGUs) to do systematic and periodic earthquake-preparation education and drills. And because their government cannot afford to do it, Filipinos are not provided with crash helmets and earthquake-survival supplies that include, among other items, hand-cranked cell phones, flashlights, blankets and first-aid kits – as practiced in Japan.

2.0 The LGUs do very-lax enforcement of zoning laws and building standards. Many tall

How and Why a 9.0-magnitude Quake May Wipe Out Metro Manila and Cause 5.530-million Deaths - Mabuhay

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buildings – even the modern skyscrapers in the City of Makati – have not incorporated in their design and construction the state-of-the-art seismic-engineering features such as the edifice resting on foundations that have giant steel coils that enable the structure to bounce and flex when the quake comes – instead of staying rigid, as in the old designs. These coils are similar in design to the automotive suspension coils. Just like what happened to the poorly-constructed “

Ruby Tower

” in the Binondo District of Manila, which collapsed after a 7.3-magnitude earthquake hit Aurora Province (epicenter of which was in Casiguran town)

on Aug. 2, 1968. I

t is projected that many of the buildings in the NCR

will experience the same Ruby-Tower “pan-cake effect.” Readers may like to read the causes of the “

Ruby Tower

” tragedy in this article,

[RP Must Undertake Earthquake-Education and Retrofitting Programs In View of Recent Quake-caused Disasters](#)

:

2.1 It is highly-probable that almost ALL bridges, flyovers and elevated expressways, including the Light Rail Transit (LRT), in the NCR

will collapse. It has been said that even in California

where almost all the bridges, flyovers and other highway infrastructures have been retrofitted, all of them will suffer major damages if a 9.0-magnitude temblor occurs. But the

California

drivers and pedestrians will have a more-than-even chance of surviving the quake’s initial burst of energy and its aftershocks. Can the same be said for the old-and-antiquated infrastructures in the

NCR

that have not been retrofitted at all?

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3.0 Metro Manila and the entire country do not have the sufficient fire-fighting equipment and very-few buildings have the fire-sprinkler system in place. And the water-pressure in fire hydrants is usually very low, if water is available at all. The country's police and military have very-few helicopters that can be used in rescuing victims during disasters and even in day-to-day crisis that does not involve natural-calamity emergencies. The country does not have even a single tanker-airplane or helicopter that can scoop water from a lake or the ocean and dump it on a raging fire.

3.1 The impotency of the Philippine national-government agencies and LGUs in dealing with disasters was demonstrated in September 2009 when Typhoon Ondoy, a relatively-weak typhoon, hit Metro Manila. To review the tragic inability of the Philippine government to handle disasters was pointed out by *Time Magazine* in this article, [Philippine Floods: Why Wasn't Manila Prepared?](#)
[- TIME](#)

http://www.time.com/time/world/article/0,8599,1926646,00.html?xid=thepage_newsletter

3.2 The PAS has estimated the number of fires at 500 that will rage uncontrollably when a 7.2-magnitude earthquake hits Metro Manila. The number will be like 5,000, minimum, should a 9.0-magnitude quake hit the NCR.

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3.2.1 Many of the individual (detached) homes in the NCR are made of light materials such as wood and corrugated galvanized-iron sheets, especially in the squatter or poorer areas. The houses in these areas will be like matchboxes exploding in flames, once the liquefied-petroleum gas (LPG) in steel cylinders start to blow up in kitchens and even in restaurants (as the NCR has very-few piped-in gas connections running underneath the streets).

3.2.2 As the fires spread from street to street – as many of the houses and smaller buildings do not have fire walls and designated "fire zones" – there will be mass chaos in the NCR. Even many of the highly-trained Japanese urban residents panicked initially and only recovered their much-vaunted discipline immediately after the Big One passed. How much more in the Philippines where people are said to lack national discipline?

3.3 As injured survivors trickle in to land-based hospitals – if they are able physically to walk to them or if they can be brought at all by helicopters or ambulances – many of them will die, as nearly all of the medical facilities will be damaged and made inoperable by the quake. The country does not operate hospital ships and its armed forces and police do not have highly-organized medical corps with resources like battlefield medical tents and mobile-surgical facilities. Many of the injured will die unattended by medical personnel and/or by the lack of medical supplies.

3.3.1 This writer wrote in September 2005 to then-President Gloria Macapagal-Arroyo about the need to procure hospital ships from the United States but she totally disregarded my suggestion. Readers can browse this article about it:

[Gloria Arroyo Misses a Golden Opportunity to Create a World-class Legacy of Leadership in Disaster Relief by Operating Hospital Ships](#)

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4.0 The projected deaths of 5.530-million residents of, and/or visitors to, the NCR does not even presume the coming of a tsunami within an immediate time frame after the quake happens. If a tsunami comes, all bets are off on the number of casualties and injured.

4.1 Many areas in the NCR and adjacent provinces are below sea level. The deadly effects of a tsunami will be quantified by the terrain of Manila and suburbs.

4.2 As I wrote before when and if the sea level goes up by some 20 feet or even less – because of Global Warming – the Laguna de Bay, the seven lakes of San Pablo City (Laguna) and the Manila Bay would become one body of water. The scenario may happen by 2050, if Al Gore and Company are right. A tsunami can make my prediction an instant reality. Here's why .

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4.2.1 The tsunami in the March 11, 2011, quake in Japan traveled more-than six miles from the sea shore. From the beach in Las Piñas City to the South Expressway/Sucab Road intersection is less-than three miles. At the end of that intersection, the ground drops by about 20 feet, which is actually the level of Laguna de Bay. All the sea water from Manila Bay that the tsunami will move at the speed of approximately 500 miles per hour and pour into the lower level and then proceed to swallow the low lands – all the way to the nearby Laguna de Bay (a lake) and probably reach San Pablo City. Then the water rushes back to

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Manila

Bay

, presumably carrying also the waters of the eight lakes. The deadly scenario is beyond description by mortal writers.

4.2.2 To revisit the original article about the coming “union” of the waters of Laguna de Bay, the lakes in San Pablo City and Manila Bay, please click on this link: [Global-warming Articles Not Meant to Destroy RP Property Values If Metro Manila Will Be Under Water](#)

4.2.3 There is an attachment to the said article in the preceding sub-paragraph, including a link to this map: <http://flood.firetree.net/?ll=14.5091,121.0144&z=9>

The above is a Flood Simulation Map for [Metro Manila](#) . Select the Flood level (in meters) to see how an area is affected. The darker colored areas would be the areas under water. You can also DRAG and PAN the image map to select a larger overview or a more detailed look of a specific area. Click on the plus and minus icons to zoom in or out (or double-click). This map was suggested by Architect Nat Dueñas of Redwood City

,
CA

, and

Iloilo

City

– Data from the NASA – app from

<http://flood.firetree.net>

Because of bad topographical features, the NCR is a prime candidate of becoming the scene of the “mother of all natural disasters” should an earthquake with a magnitude of 7.2 to 9.0

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happens, with or without a tsunami following the temblor.

By next installment of this series, this writer will discuss how the Filipino people and their national-and-LGU leaders can prepare for such an eventuality and mitigate the predicted deadly effects of the calamity.

In the meantime, here is a report about the 9.0-magnitude quake in Japan, which is Asia's richest nation and supposedly the most-prepared country in the world in dealing with earthquakes and tsunamis. If it could happen to

Japan

, how can it not happen in the

Philippines

, when both are in the same "Pacific Ring of Fire"? Eighty-percent of earthquakes and 90-% of tsunamis happen in the "Ring of Fire."

Japan

sits on an area where the Philippine Plate meets with the Pacific and Eurasian Plates. Here is the report . . .

[Japan Begins To Dig For Dead Amid Nuclear Crisis](#)

Rescue workers used chain saws and hand picks Monday to dig out bodies in Japan's devastated coastal towns, as

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Asia

's richest nation faced a mounting humanitarian, nuclear and economic crisis in the aftermath of a massive earthquake and tsunami that likely killed thousands.

"People are surviving on little food and water. Things are simply not coming," said Hajime Sato, a government official in [Iwate prefecture](#) , one of the three hardest hit.

He said authorities were receiving just 10-percent of the food and other supplies they need. Even body bags and coffins are running so short the government may turn to foreign funeral homes for help, he said.

"We have requested funeral homes across the nation to send us many body bags and coffins. But we simply don't have enough," he told The [Associated Press](#) . "We just did not expect such a thing to happen. It's just overwhelming."

To read more reports about the Japanese tragic earthquake, please click this link:

http://www.huffingtonpost.com/2011/03/13/fukushima-explosion-japan-nuclear_n_835202.html?icid=maing|main5|dl1|sec1_inlk2|49886

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(To be continued . . .) # # #

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